

# OCCURRENCE OF THE GHOST BAT, *MACRODERMA GIGAS*, IN THE GREAT VICTORIA DESERT, W.A.

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Hitherto the most southern recent records of live examples of the Ghost Bat, *Macroderma gigas*, in Western Australia have been from the Pilbara district (Finlayson, 1958: 923), though there was a sight observation from the Barlee Range (Robinson, 1957: 232). Subfossil remains in caves are known, however, as far south as Margaret River (Cook, 1960: 107).

In August-September 1961 I participated in an expedition by local naturalists to the Warburton Ranges and on August 29 collected a live specimen of the Ghost Bat in a shallow cave at Gahnda rockhole, on the Laverton-Warburton road, approximately 65 miles south-west of the Australian Inland Mission at the Warburton Ranges.

The locality is in the "Desert Zone" described by Talbot and Clarke (1917) and recent rainfall maps give a mean annual rainfall for the region as between 6 and 8 in. The surrounding vegetation is spinifex (*Triodia*) and mulga (*Acacia ancura*). The cave was in a low "desert sandstone" (ferruginous laterite) breakaway, the opening being 12 ft. wide and 6 ft. high, expanding into a chamber 22 ft. long, 12 ft. high and 18 ft. wide, with two small tunnels extending further back. Tracks and bone remnants indicated these to be a dingo's lair.

The bat was flushed from the dark area immediately behind the entrance when I entered the cave at 11.30 a.m. It flew out of the cave and immediately returned, inspecting me whilst it was still in flight. It flew out again and I temporarily lost sight of it. I located it soon afterwards in a shallow overhang nearby just shaded from the sun. I collected it by firing a .22 calibre copper slug into the rock wall just below its head and the spatter of fragments stunned the animal sufficiently to enable me to capture it.

Particulars of the specimen, which has been lodged at the Western Australian Museum (No. M4637), are as follows: Adult male. Dimensions, length of head and body, 115 mm.; head, 53; forearm, 119; thumb, 12; 1st finger (1st joint), 87; 2nd finger (1st joint), 75; 3rd finger (1st joint), 84; 4th finger (1st joint), 88; lower leg, 51; ear, 51; tragus, 27. Colour, white underparts and wing membranes, pale grey on the back and shoulders.

This record re-opens the problem of the disappearance of the species from the more southern parts of the State. The Gahnda locality is about 450 miles south-east of the Pilbara district, and in some of the harshest desert country in inland Western Australia. That the creature can exist here makes untenable the supposition of Wood Jones (1925: 444) that *Macroderma* disappeared from southern South Australia (he was referring to its former presence at the Carrieton Caves, east of Port Augusta) owing to increasing desiccation. Rather, it would appear, *Macroderma* in Western Australia (south of the Kimberley Division) and South

Australia is a desert animal and its former presence in southern localities may be evidence of a more arid climatic interval at that time. Cook (1960: 108) has already offered this explanation to account for the presence of remains of the Fat-tailed Dunnart (*Sminthopsis crassicaudata*) and the Dalgite (*Macrotis lagotis*) in certain of the South-West caves. Some of the distribution maps given by Lundelius (1957) would suggest the same thing, namely that creatures (such as *Dasyercus* and *Sminthopsis hirtipes*) now found living only in distant desert areas once inhabited localities in what is now more humid country towards the South-West corner.

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## THE FLORA OF THE SHOALWATER BAY ISLANDS

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#### INTRODUCTION

The Cape (or Point) Peron peninsula is the only portion of a north-south trending ridge of limestone that is now attached (as a tombolo) to the mainland. To the north of Cape Peron supramarine segments of the ridge constitute the present Garden and Carnae Islands, the Mewstone and the Stragglers. South from Cape Peron the ridge extends as a chain of islets and reefs to the southwestern corner of Warnbro' Sound. For geological details of this area see Fairbridge (1950) and Carrigy (1956).

The flora of Garden and Carnae Islands have been listed by McArthur (1957). The flora of the southern islands is described herein for the first time. All the islands forming the western boundary of Shoalwater Bay are vegetated. The rocks and islets stretching south from Penguin Island to the Seven Sisters were scanned from the former with field glasses and appeared devoid of plant-life.

A series of islands, such as Bird, Gull, Seal, Shag and Penguin, which vary in size and number of habitats, illustrates the process of floristic impoverishment in shrinking land masses. The larger islands, Penguin and Seal, with their beaches and dunes support a moderately rich flora. As the islands decrease in area from about three to two acres, especially when their longer axis as in Shag and Bird is east-west, dunes and beaches are swept away with